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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/825,988 | 04/16/2004 | Thomas Aisenbrey | INT03-012 | 8729 |

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| EXAMINER | |
|---|---|
| WILLE, DOUGLAS A | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2814 | |

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/825,988 | AISENBREY, THOMAS | |
| | Examiner | Art Unit | |
| | Douglas A. Wille | 2814 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *11 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-30 and 32-55* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *41-55* is/are allowed.

6)☒ Claim(s) *1-14,16-22,26-30 and 33-37* is/are rejected.

7)☒ Claim(s) *15,23-25 and 38-40* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3, 4, 8, 9, 16, 17, 21, 22, 27, 29, 36 and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Quackenbush.

3. With respect to claim 1, Quackenbush shows a capacitor (see Figure 7 and column 2, line 56) with a first plate with a conductive resin containing conductive particles and a second plate coupled to the first for forming a capacitor. Each layer has a random distribution of conductive material and each layer is sufficiently close to the others that conductivity is improved. Since the layering will not affect the randomness, the particle distribution will still be random in the direction perpendicular to the layers and therefore the resultant will be substantially homogeneous.

4. With respect to claims 3, 4 and 27, Quackenbush shows that the particles could be Cu metal (column 1, line 15).

5. With respect to claims 8, 9 and 29, Quackenbush shows that the particles can be carbon (column 1, line 14).

6. With respect to claim 16 Quackenbush shows both plates as being the same.

7. With respect to claim 17, there is a dielectric 83, 84 between the plates.

8. With respect to claims 21 and 36, the dielectric is on both sides of the plates.

9. With respect to claims 22 and 37, there are multiple planes.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. Claims 2, 11, 12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quackenbush in view of Watanabe et al.

12. With respect to claim 2, Quackenbush does not provide the conductive material composition in weight percentage but Watanabe et al. show that for carbon as a conductive material the weight percentage is 1 – 50 %. It would have been obvious to use this percentage since it is known to be functional. Note that it would be difficult to measure a powder by volume and would be much simpler to measure by weight.

13. With respect to claim 11, Watanabe et al. show that carbon fibers can be used and since carbon nanotubes are so well known and readily available, it would be obvious to use them.

14. With respect to claim 12, Watanabe et al. shows that metal fibers can be used (column 8, line 46).

15. With respect to claim 14, since powder and fibers are equivalent it would be obvious to use a combination of them.

16. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quackenbush in view of Watanabe et al. and further in view of Yamaguchi.

17. With respect to claim 26, Watanabe et al. show the use of metal fibers and Yamaguchi shows (column 9, line 25) that various materials can be used as metal fibers in a conductive resin, including stainless steel. It would be obvious to use stainless steel as one of an equivalent set of materials

18. Claims 5, 6, 7 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quackenbush in view of Azechi et al.

19. With respect to claims 5 and 28, Azechi et al. show that conductive particles in a binder can be either metal or metal coated particles [0026]. Since they are equivalent, it would be obvious to use either of them.

20. With respect to claim 6, Azechi et al. show nickel [0034].

21. With respect to claim 7, Quackenbush does not show the particle size but Azechi et al. show a particle size of 0.1 – 20 microns and it would be obvious to use this size since it is known to be functional.

22. Claims 10, 18 – 20, 30 and 33 – 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quackenbush.

23. With respect to claim 10, Quackenbush shows that carbon and metals are equivalent and it would be obvious to use any combination of equivalent materials.

24. With respect to claim 30, since the two types are equivalent, their mixture would be obvious.

25. With respect to claims 18 – 20 and 33 – 35, Quackenbush does not specify the dielectric but since resins, ceramics, mica and paper are all well known dielectrics, their use would be obvious.

26. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Quackenbush in view of Watanabe et al. and Azechi et al.

27. With respect to claim 13, Quackenbush and Watanabe et al. show fibers and Azechi et al. shows a particle size of 0.1 – 20 microns. It would be obvious to use this size since it is known to be useful. None of the references show the fiber length but it would be within normal experimentation to use either the natural fiber length that occurs from the fabrication method or to select any specific fiber length since the function of the fiber is not affected by its length.

***Allowable Subject Matter***

28. Claims 41 – 55 are allowed.

29. The prior art does not teach molding the capacitor plates.

30. Claims 15, 23 - 25 and 38 – 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

31. The prior art does not show the second plate as being metal, a solderable overlayer, a circuit trace or a molded housing.

***Response to Arguments***

1. Applicant's arguments filed 2/11/05 have been fully considered but they are not persuasive.

2. Applicant argues that Quackenbush does not show a homogeneous material but see the rejection of claim 1 above.

3. Arguments with respect to stainless steel are addressed in the rejection of claim 26 above.

***Conclusion***

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas A. Wille whose telephone number is (571) 272-1721. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Douglas A. Wille
Primary Examiner